

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A projection illumination device, comprising: a light source providing parallel light beams along a light axis; a quarter-wave retardation being disposed near the light source, and substantially perpendicular to the light axis; and a wire grid polarizer being disposed parallel to the quarter-wave retardation, for being associated with the quarter-wave retardation to polarize the light beams from the light source.

2. (Original) The projection illumination device as claimed in Claim 1, wherein the wire grid polarizer has an illuminated surface in front of the light source, and the quarter-wave retardation adheres to the illuminated surface.

3. (Original) The projection illumination device as claimed in Claim 1, further comprising a transparent glass plate that adheres to the quarter-wave retardation.

4. (Original) The projection illumination device as claimed in Claim 1, further comprising a lens array disposed between the light source and the quarter-wave retardation and being substantially perpendicular to the light axis, thereby preliminarily unifying the light beams from the light source.

5. (Original) The projection illumination device as claimed in Claim 1, wherein the quarter-wave retardation has a slow axis, the wire grid polarizer has an absorptive axis, of which the slow axis and the absorptive axis define an included angle of substantially 45 degrees.

6. (Original) The projection illumination device as claimed in Claim 1, wherein the light source further comprises a lamp and a parabolic lampshade, of which the lamp is disposed at the focus of the parabolic surface of the lampshade for providing the parallel light beams.

7. (Original) The projection illumination device as claimed in Claim 1, further comprising a condenser and a relay, the condenser is used for unifying a shape of the light beams, and the relay is used for concentrating and collimating the light beams.

8. (Original) An LCD projection system, comprising: a projection illumination device as claimed in Claim 1 for providing polarized light; and an imaging apparatus for receiving the polarized light from the projection illumination device in order to project an image.

9. (Original) The LCD projection system as claimed in Claim 8, wherein the imaging apparatus comprises a color selector, two liquid crystal panels and a lens, of which the color selector is adapted for selecting the desired color and its complementary color, and the two liquid crystal panels are adapted for producing the image and projecting the image through the lens.

10. (Previously presented) The projection illumination device as claimed in Claim 1, wherein only p-polarized light can pass through the wire grid polarizer, and the non p-polarized light that cannot pass through the wire grid polarizer is reflected.

11. (Currently amended) A projection illumination device, comprising: a light source having a reflecting surface; a retardation generating a phase difference of a quarter period between light before and after passing through the retardation; and a polarizer allowing light of a first polarity to pass through while reflecting light of a second polarity; wherein **the light source, the retardation and the polarizer are arranged in a straight line** the light source emits a light beam passing through the retardation to the polarizer so that light of the first polarity in the light beam passes through the polarizer while that of the second polarity is reflected by the polarizer through the retardation to the reflecting surface and further reflected by the reflecting surface through the retardation to the polarizer.

12. (Previously presented) The projection illumination device as claimed in Claim 11, wherein the polarizer has an illuminated surface in front of the light source, and the retardation adheres to the illuminated surface.

13. (Previously presented) The projection illumination device as claimed in Claim 11, further comprising a transparent glass plate that adheres to the retardation.

14. (Previously presented) The projection illumination device as claimed in Claim 11, further comprising a lens array disposed between the light source and the retardation and being substantially perpendicular to the light axis, thereby preliminarily unifying the light beams from the light source.

15. (Previously presented) The projection illumination device as claimed in Claim 11, wherein the retardation has a slow axis, the polarizer has an absorptive axis, of which the slow axis and the absorptive axis define an included angle of substantially 45 degrees.

16. (Previously presented) The projection illumination device as claimed in Claim 11, wherein the light source further comprises a lamp and a parabolic lampshade, and the parabolic lampshade has the reflecting surface, of which the lamp is disposed at the focus of the parabolic surface of the lampshade for providing a plurality of parallel light beams.

17. (Previously presented) The projection illumination device as claimed in Claim 11, further comprising a condenser and a relay, the condenser is used for unifying a shape of the light beam, and the relay is used for concentrating and collimating the light beam.

18. (Previously presented) An LCD projection system, comprising:

a projection illumination device as claimed in Claim 11 for providing polarized light; and an imaging apparatus for receiving the polarized light from the projection illumination device in order to project an image.

19. (Previously presented) The LCD projection system as claimed in Claim 18, wherein the imaging apparatus comprises a color selector, two liquid crystal panels and a lens, of which the color selector is adapted for selecting the desired color and its complementary color, and the two liquid crystal panels are adapted for producing the image and projecting the image through the lens.